

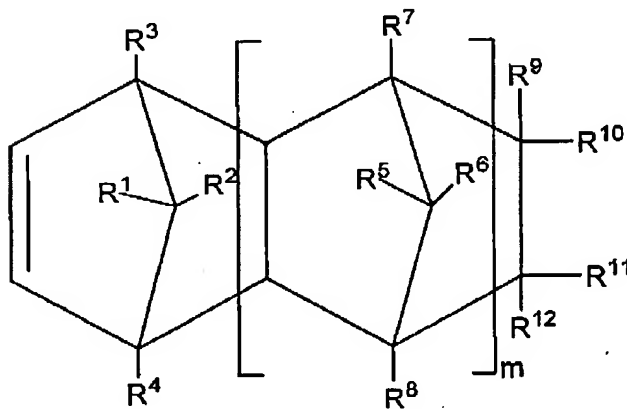
Application No.: 10/523,490
Docket No.: SR0017

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CENTRAL FAX CENTER
OCT 27 2006 Page 2

Listing of Claims

Claim 1. (Original) A fluorine-containing copolymer comprising:

- a) a repeat unit derived from an ethylenically unsaturated compound having at least one fluorine atom covalently attached to an ethylenically unsaturated carbon atom; and
- b) a repeat unit derived from an ethylenically unsaturated cyclic compound of structure:



wherein m is 0, 1 or 2;

R¹ to R¹² are independently H, halogen, carboxyl, OH, or

O₂C-R¹³, wherein R¹³ is a C₁-C₂₀ hydrocarbon group and at least one of R¹ to R¹² is OH or O₂C-R¹³.

Claim 2. (Original) The fluorine-containing copolymer of Claim 1, wherein R¹ to R¹¹ are each hydrogen, m is zero, and R¹² is OH or O₂C-R¹³, wherein R¹³ is a C₁-C₂₀ hydrocarbon group.

Claim 3. (Original) The fluorine-containing copolymer of Claim 2, wherein R¹³ is a linear or branched alkyl group of 1 to 10 carbon atoms.

Claim 4. (Original) The fluorine-containing copolymer of Claim 3, wherein R¹³ is methyl, ethyl or propyl.

Claim 5. (Original) The fluorine containing copolymer of Claim 1, wherein the halogen is chlorine, fluorine, or bromine.

Application No.: 10/523,490
Docket No.: SR0017

Page 3

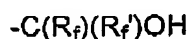
Claim 6. (Original) The fluorine-containing copolymer of Claim 1, wherein repeat unit (a) is derived from tetrafluoroethylene, hexafluoropropylene, chlorotrifluoroethylene, trifluoroethylene, vinyl fluoride, vinylidene fluoride, perfluoro-(2,2-dimethyl-1,3-dioxole), perfluoro-(2-methylene-4-methyl-1,3-dioxolane), $\text{CF}_2=\text{CFO}(\text{CF}_2)_t\text{CF}=\text{CF}_2$, wherein t is 1 or 2, or $\text{R}_f\text{OCF}=\text{CF}_2$ wherein R_f is a saturated fluoroalkyl group of from 1 to 10 carbon atoms.

Claim 7. (Original) The fluorine-containing copolymer of Claim 6, wherein repeat unit (a) is derived from tetrafluoroethylene.

Claim 8. (Original) The fluorine-containing copolymer of Claim 1, further comprising a repeat unit derived from tert-butyl acrylate or methyl adamantyl acrylate.

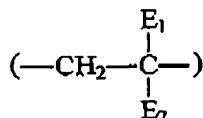
Claim 9. (Original) The fluorine-containing copolymer of Claim 1, further comprising a repeat unit which is a norbornyl fluoroalcohol or a protected norbornyl fluoroalcohol.

Claim 10. (Original) The fluorine-containing copolymer of Claim 1, further comprising a fluoroalcohol group derived from an ethylenically unsaturated compound containing a fluoroalcohol group having the structure:



wherein R_f and R_f' are the same or different fluoroalkyl groups of from 1 to 10 carbon atoms or taken together are $(\text{CF}_2)_n$ wherein n is 2 to 10.

Claim 11. (Original) The fluorine containing copolymer of Claim 1, further comprising an acid-containing or protected acid-containing structural unit:



wherein E_1 is H or $\text{C}_1\text{--C}_{12}$ alkyl; E_2 is CO_2E_3 , or SO_3E ; and E and E_3 are H or unsubstituted or heteroatom-substituted $\text{C}_1\text{--C}_{12}$ alkyl.

Claim 12. (Original) The fluorine containing copolymer of Claim 11, wherein the heteroatom is S, O, or N.

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NO. 6451 P. 5

Application No.: 10/523,490

Docket No.: SR0017

Page 4

Claims 13 – 28 (Canceled)